

LOS OSOS WASTEWATER PROJECT TECHNICAL ADVISORY COMMITTEE

San Luis Obispo County Department of Public Works



Meeting Minutes

Monday, May 7, 2007

- 1) Call to Order/Roll Call: Approximately 12:05 pm, Chairman Garfinkel calls the meeting to order. Absent: John Fouche.
- 2) Agenda Item 1, Approval of Meeting Minutes from April 23, 2007: Two public comments on correction to minutes. Dave Duggan prefers the phrase “constructed wetlands” instead of “terminal wetlands” in regards to his comments. George Taylor points out the misspelling of his name. **Bob Semonsen motions to accept minutes with corrections, John Brady seconds, Marshall Ochylski abstains. Motion carries.**
- 3) Agenda Item 2, Chairperson’s Comments and Working Group Reports:
Opening comments by Chairman Bill Garfinkel. Announces Don Asquith’s resignation from the advisory committee. The County will begin the process of recruiting for his replacement. Discusses public meetings of working groups, advisory committee consideration of public comments and input, and the need for more public outreach. Discusses development of criteria for the pro/con analysis and the wastewater project alternatives review process. Announces the delay of the Draft Fine Screening Report, due in part to written comments and suggestions from Dr. George Tchobanoglous. The Project Team will be meeting with him later this week to discuss his comments and revise the Draft Fine Screening Report as necessary.
 - a. Environmental working group: Discussion and written summary of items from April 26, 2007 and May 3, 2007 working group meetings along with their suggestions for unified core values (attached).
 - b. Engineering working group: Discussion and written summary of items from April 27, 2007 and May 4, 2007 working group meetings (attached).
 - c. Financial working group: Discussion and written summary of items from May 7, 2007 working group meeting (attached).

Advisory committee discusses combining core values from individual working groups to come up with a set of overall core values for the advisory committee. Russell Westmann suggests adding “controllability” to the core values. Advisory committee discusses the meaning of “community” and “sustainability”. Final preamble and core values to be approved at the next meeting.

Advisory committee discusses how to utilize the criteria. The advisory committee working groups to review and reformat their criteria, incorporate public comments, and present them at the next advisory committee meeting for approval.

Public comment on Agenda Item 2:

Dave Duggan: Discussion of project costs for component alternatives such as direct injection. Discussion of case studies and their relevance to Los Osos. Discussion of evaluation of project alternatives and their relationship with successful Prop 218.

Ann Calhoun: Discussion of “fatal flaws” as criteria. Discussion of policy impacts related to projects with “fatal flaws”.

Al Barrow: (submitted written comments on STEP collection and Pond Treatment – attached). Discussion of format of pro/con analysis. Discussion of finance working group listing “risk” as a criteria.

John Michener: Discussion of treatment facility siting, Prop 218 process and advisory survey. Discussion of informing property owners who live outside the Prohibition Zone.

George Taylor: Discussion of water supply and reuse issues. Discussion of affordability, sustainability, and flexibility in the core values.

Lawson Schaller: Discussion of affordability, energy, growth and flexibility in the Criteria and core values. Discussion of the format of the Draft Fine Screening Report to be made available to the public. Request for the email the County received from George Tchobanoglous to be made available to the public.

Richard Margetson: Discussion of affordability in the core values. Discussion of “significant pollution” statement in the preamble. Discussion of “offset” as criteria.

Jon Arcuni: Discussion of AB 2701 and the County's the right to build outside the LOCSD district boundaries.

Advisory committee response to public comment: Discussion of Rough Screening Report for fatal flaw analysis. Committee agrees to add affordability to the list of core values. County agrees to post George Tchobanoglous's comments on project website. Discussion of significance of sea water intrusion as a pollutant. Discussion of County authority to construct wastewater facilities under AB 2701. **No action taken.**

- 4) Date of next advisory committee meeting: Tuesday, May 15, 2007 at 7:00 pm in Los Osos at the South Bay Community Center.
- 5) Meeting adjourns at approximately 2:30 pm.

Announcements from the Chair

May 7, 2007

1. Resignation of Don Asquith for personal reasons. ENV
2. The three community input meetings were very helpful to the TAC subgroups and the inputs received are being incorporated into our pro/con analysis.
3. We appreciate the e-mail comments that we receive and will take them into our deliberations.
4. The purpose of today's meeting is twofold – to establish the core values we believe any wastewater project for Los Osos needs to measure up to, and to create a rough draft of the criteria that the TAC will use to analyze the projects presented to us in the Fine Screening Draft that we will be receiving next week.
5. It is important to remember that the criteria needs to be independent of any specific project in order to assure that each project is subjected to the same standards of evaluation.
6. We have scheduled our meeting dates, times, and locations to take us through the end of July with our next meeting being the town hall meeting a week from tomorrow, Tuesday evening, in Los Osos. At this meeting we will be introduced to the Project Team's Fine Screening Draft.

5/7/07
Provided by TAC Chair,
Bill Garfinkel

Technical Advisory Committee
Project Pro/Con Analysis

Project:

Project Component	Summary Description	Water Resource/Engineering	Environmental	Financial
Effluent Management		Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:
Treatment Technologies		Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:
Biosolids Management		Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:
Treatment Plant Site		Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:
Collection System		Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:	Pro Con Criteria 1: Criteria 2: Criteria 3:

5/7/07
Provided by John Brady

SLO County Technical Advisory Committee for the Los Osos Wastewater Project

Engineering/Water Resources Sub-Committee Review Rough Screening Analysis, Chapters 1 and 2

Meeting date: April 2, 2007, Monday 7:00 – 9:00 AM

Attendees: Bill Garfinkel, John Waddell, Rob Miller, John Brady, John Fouche,
Bob Semonson, Russ Westmann

Criteria Established

- Level of control over disposal options, multi-faceted approach that does not depend on 3rd parties
- Cost of various disposal options
- Retain water in the basin for sustainability and increased yield
- Seawater intrusion mitigated
- Water purveyors input and acceptance
- Stakeholders input and acceptance

Information Requests

- Conceptual level cost estimate for direct injection of disposal water
- Flow study projection
- RWQCB disposal water quality criteria for each option
- Creek crossing impacts and cost
- Latest studies done by Cleathe

5/7/07
Provided by Eng/H2O Resource
Ad. Hoc Committee

SLO COUNTY TECHNICAL ADVISORY COMMITTEE FOR THE LOS OSOS WASTE WATER PROJECT

ENGINEERING/WATER RESOURCES SUB-COMMITTEE REVIEW OF ROUGH SCREENING ANALYSIS, CHAPTERS 3 & 4

MEETING DATE: FRI. 4/20/07 3:00- 5:00 P.M.

ATTENDEES: DIANA HAINES, JOHN WADDELL, JOHN BRADY, JOHN FOUCHE
RUSS WESTMANN, BOB SEMONSEN

CRITERIA ESTABLISHED

CHAPTER 3- TREATMENT TECHNOLOGY

FLEXIBILITY OF TREATMENT PROCESS TO MEET FUTURE NEEDS AND REGULATIONS

DEMONSTRATED RELIABILITY OF PROCESS

EFFECT OF PROCESS ON BIO-SOLIDS PRODUCTION

COSTS- CONSTRUCTION, REPLACEMENT, OPERATION AND MAINTENANCE, ELECTRICITY

CHAPTER 4- BIO-SOLIDS TREATMENT AND DISPOSAL

MAINTAIN CONTROL OF DISPOSAL PROCESS

FLEXIBILITY OF BIOSOLID PROCESS AND DISPOSAL

NUISANCE ASSESSMENT OF BIO-SOLIDS PROCESS AND DISPOSAL

COST OF PROCESS FACILITIES, O & M, AND ULTIMATE DISPOSAL

INFORMATION REQUESTS

TREATMENT PERFORMANCE PARAMETERS FOR WASTE WATER PLANT

5/7/07
Provided by Eng/H₂O Resource
Ad-Hoc Committee

**SLO County Technical Advisory Committee for the Los Osos Wastewater Project
Engineering Sub-Committee Review
Rough Screening Analysis, Chapters 5 and 6
May 4, 2007, 3:00 – 6:00 PM**

April 27th

Attendees: John Brady, Bill Garfinkle, Bob Semonson, John Waddell, Russ Westmann, Diana Haines

Chapter 5 – Treatment Plant Site Criteria

- Sufficient in size to meet environmental and potential future expansion needs.
- Minimize fluid transport costs
- Minimize land costs, to include environmental mitigation costs.
- Site conditions with regards to constructability.

Chapter 6 Collection System

- Life cycle costs.
- Design life.
- Property impact for both private and public properties.
- Reliability of System
- Environmental impact of system
- Infiltration and inflow potential.

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ALTERNATIVE I

Site (location): _____

Collection: _____

Processing Plant: _____

Effluent Disposal: _____

Solids Disposal: _____

Relative importance of criteria:

A = Critical

B = Important

C = Worth consideration

Draft 5/7/07

CRITERIA	Relative Import	PROS	CONS	OVERALL
ENVIRONMENTAL FACTORS				
1. Construction disturbance 2. Size 3. Impact on flora and fauna 4. Visual impact 5. Private property impact 6. Odor, noise 7. System failures 8. Archeological risks 9. Community acceptance 10. Traffic impacts				
GROUNDWATER MANAGEMENT				
1. Balance, Aquifer recharge 2. Quality 3. Salt Water Intrusion - Surface Water Quality - Volume of solids - Energy requirements - Growth Inducement - Level of risk associated with spill, earthquake, flood				

additional points under Environment

5/7/07

Provided by Finance Ad-Hoc
Committee

additional points to Eng/ Water

ENGINEERING/ WATER RESOURCES				
<div>1. Collection system</div> <div><ul style="list-style-type: none">- State of the art treatment technology- Maintainability- Projected life- Reliability- Expandability- Energy requirements- Private property impacts- System failures</div> <div>2. Treatment Technology</div> <div><ul style="list-style-type: none">- State of the art treatment technology- Effluent quality- Maintainability- Projected life- Expandability- Energy requirements- System failures</div> <div><hr/></div> <div><ul style="list-style-type: none">- Flexibility to meet future needs and regulations- Demonstrated reliability of process- Affect on bio-solids production- Costs (Construction, replacement, O&M, energy)</div> <div>3. Site</div> <div><ul style="list-style-type: none">- Access- Expandability- System failures- Community acceptance</div> <div><hr/></div> <div>4. Effluent Disposal</div>				

additional point

<ul style="list-style-type: none"> - State of the art - Maintainability - Projected life - Expandability - Energy requirements - System failures <hr/> <p>5. Solids Disposal</p> <ul style="list-style-type: none"> - State of the art - Maintainability - Projected life - Expandability - Energy requirements - System failures <hr/> <ul style="list-style-type: none"> - Maintain control of disposal process - Flexibility of bio-solid process, disposal - Nuisance assessment 				
COST CONSIDERATIONS				
<p>1. Capital Costs</p> <ul style="list-style-type: none"> - Land acquisition - Road impacts - Construction costs - Cost for individual hook-up <p>2. Operations & Maintenance Costs</p> <ul style="list-style-type: none"> - Energy requirements - Labor, materials, overhead needs - Costs for waste disposal - Projected schedule for repairs, upgrades <p>3. Risk Factors</p> <ul style="list-style-type: none"> - Construction, archeological risks 				

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<ul style="list-style-type: none"> - 3rd party handling/ participation - Clean-up of leaks, spills, and potential fines <p>4. Offsets</p> <ul style="list-style-type: none"> - Cost of higher level of treatment vs. cost of importing water - Potential phases to ease initial project cost <p>5. Projected total cost of initial capital costs, O&M, and ultimate disposal</p>				
FINANCING FACTORS				
<p>1. Eligibility for best financing</p> <ul style="list-style-type: none"> - Interest rate - Terms - Points, closing costs - Engineering constraints - Flexibility and timing <p>2. Percentage of Project Financed</p> <p>3. Grant eligibility, attractiveness</p> <p>4. Conducive to 3rd party financial participation, eg water purveyors</p>				

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**SAN LUIS OBISPO COUNTY
TECHNICAL ADVISORY COMMITTEE
Financial Working Group**

NOTES from Public Meeting held on 4/24/07

Bill Garfinkel and the County staff led the public Financial Working Group meeting, where various questions and concerns were raised by the public. Most public comments fell into four categories: Criteria and Core Values, Financing, Prop 218 and the Advisory Votes, and the County's process. These questions and comments will be carefully captured and considered by the group's future efforts, particularly in the process of developing the Pro/ Con analysis of the upcoming Fine Screening Report.

Some concern was also raised about the format of this meeting. Several people urged the group to hold future public meetings in the same manner that they would conduct their discussions in a non-public setting. The group appreciated the community's input and will take all comments into serious consideration.

NOTES from the Financial Working Group meeting on Monday, 5/7/07

1. It was noted and encouraged to research information on the internet relating to various sewer systems, their actual costs and experience.
2. The criteria and the format for the Pros and Cons were discussed and drafted.
3. We reviewed public comments from the 4/24 meeting. While financing efforts will come after a project has been selected, there are some financing factors that will affect the Pro/ Con cost analysis.
4. Paavo provided an update regarding the possible actions to be taken by the RWQCB to issue blanket CAOs, and the potential efforts of the SLO Board of Supervisors to address these efforts. The Supervisors will consider issuing a letter to the RWQCB at their meeting on 5/8/07.
5. There was a discussion of the potential project alternatives; how construction might be phased; and how the costs could be spread equitably.
6. Until legal advisors and the Assessment Engineer have reached their conclusions, we will not know precisely how the Prop 218 vote will be conducted.

Our next meeting will take place on Thursday, 5/10 at 9:00 AM in Los Osos.

SLO County Technical Advisory Committee for the
Los Osos Wastewater Project

Environmental Working Group – 2nd Report

Meeting Date: April 12th, 2007, 10:00-12:00 AM

Attendees: Dan Berman, Marshall Ochylski, Don Asquith, Maria Kelly, Paavo Ogren, Mark Hutchinson

Topics discussed include:

- Revisions to the overall Environmental Criteria,
- Revisions to our Chapter 2 Criteria
- Criteria specific to Chapters 3 and 4
- Draft Guiding Principles for the Working Group

Overall Environmental Criteria:

As the Environmental Group proceeds through this criteria development it should be expected that there will be an ongoing refinement of our criteria list. Changes have been marked with an asterisk for clarification. It is important to this group that we are as prepared as possible prior to the reviewing of the DRAFT Fine Screening Report.

Specific Changes:

- Salt Water Intrusion considerations should become a sub-topic of Ground Water Management
- Solids Handling now has one sub-topic: Volume
- Construction Impacts have been identified as applicable for Pro/Con analysis and has been added for review.

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Environmental
Ad. Hoc Comm. Htee

Overall Revised Criteria

Environmental Criteria (and sub-criteria) identified as applicable to a Pro/Con Analysis of the proposed project include:

Ground Water Management

Balance

Quality

****Salt Water Intrusion***

Surface Water Quality

Tributaries

Estuary

Biological/Botanical Resources

Archaeological Resources

Land Use Compatibility

Impacts on Agricultural Lands

Odors

Noise

Visual Resources

Solids Handling

****Volume***

Energy Use

Construction

Operational

Growth Inducement

****Construction Impacts***

Our Chapter 2 Criteria list is amended as follows (in order of importance):

- **Ground Water (Balance, Quality, **and Salt Intrusion*)**
- **Surface Water Quality**
- **Biological/Botanical Resources (Impacts on the land required for disposal)**
- ****Impacts on Agricultural Lands***
- **Visual Resources**

Rough Screening Chapters 3 and 4:

Environmental Criteria particularly applicable to the Pro/Con Analysis of Chapter 3 and 4 in order of importance:

Chapter 3

Biological/Botanical Resources (Size of parcel necessary for treatment technology)

Archaeological Resources (Size of parcel necessary for treatment technology)

Land Use Compatibility (Size of parcel necessary for treatment technology)

*5/7/07 Provided by
Env. Ad-Hoc Committee*

Visual Resources
Energy Use

Chapter 4

Solids Handling
Odor

Guiding Principles:

In our review of the previous full TAC meeting, we discussed the idea of our “Guiding Principles”. We agreed on the following 4 general concepts that will be refined as we continue the process of developing our Pro/Con analysis criteria and eventual review of project alternatives.

- We are members of the Los Osos community and we are working on behalf of our community to help provide clear, objective, and accurate information about the environmental pros and cons of different alternatives.
- Doing nothing is not an option – we need improved wastewater treatment in Los Osos to address ongoing and significant pollution of our aquifer and the Morro Bay Estuary.
- All projects will have environmental positives and negatives
- We encourage community input and participation and we will incorporate that input in our efforts and share it with the County Team.

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Finance Ad. Hoc
Committee

SLO County Technical Advisory Committee for the
Los Osos Wastewater Project

Environmental Working Group
Thursday April 26th Meeting Summary

Meeting Date: April 26th, 2007, 10:00-12:00 AM

Attendees: Dan Berman, Marshall Ochylski, Don Asquith, Maria Kelly, Mark Hutchinson, Bill Garfinkle

Main Topics discussed:

1. The Draft Pro/Con template provided by Bill Garfinkle.
 2. Chapters 5 & 6 – Siting and Collection System
 3. Planning for the May 1st Working Group meeting in Los Osos
 4. Water Resources and ‘Sustainability’
-
1. The pro-con template for the TAC generated by Bill sparked a discussion of how we best summarize our pro/con findings without producing what could be seen as a back-handed recommendation, which is not our charge. The importance of allowing community members to apply their own weighting system to different issues was emphasized. A ‘plus-minus’ system was generally supported more than a numerical scoring.
 2. Mark Hutchinson provided substantial responses to questions about siting and collection system options and impacts. The potential benefit of another siting option within the Urban Services Line was discussed, as well as relative construction impacts of gravity vs. Step/Step collection. Primary issues for pro-con analysis were selected.
 3. The agreed upon approach for the May 1st meeting was to provide a handout and a poster sized copy of our Working Group’s draft Criteria and Guiding Principles – introduce them, and request that comment be focused on them.
 4. We discussed how to add ‘sustainability’ or ‘Sustainability of water resources’ to our guiding principles, but decided to hear public input first, and revisit with the whole TAC on the 7th.

5/7/07 provided by
Ad-Hoc Finance
Committee

SLO County Technical Advisory Committee for the
Los Osos Wastewater Project

Environmental Working Group
Thursday May 3rd Meeting Summary

Meeting Date: May 3rd, 2007, 10:00-12:00 AM

Attendees: Dan Berman, Marshall Ochylski, Maria Kelly, Mark Hutchinson, Bill Garfinkle

Main Topics discussed:

1. Review of May 1 meeting
 2. The revised Draft Pro/Con template provided by Bill Garfinkle.
 3. Guiding principles for the TAC
-
1. The Working Group was generally pleased with the May 1st public meeting. The handout did not happen, but the poster served the same purpose of providing something for the community to work with and a visual representation of some progress. The fact that the LOCSD's Env committee, and most speakers, had produced a very similar list of issues was encouraging. The need for TAC Core Values, including Sustainability, was a common theme of the public, and is supported by the Working Group
 2. Most of the meeting was spent revising the TAC Pro/Con draft provided by Bill Garfinkle to ensure it captures the Working Groups decisions to date. Water Resources was moved from a column to a row, and a number of issues were reworded, added, and deleted. A revised version with our additions will be provided at the May 7th meeting. There was agreement that the appropriate format, approach, and schedule for the pro/con analysis may be more clear when we see the composition of the fine screening report.
 3. Dan Berman agreed to work with Mark Hutchinson to insert a suitable definition of Sustainability to suggest for the TAC's Core Values – See below

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by ~~Finance~~ Ad Hoc
Environmental
Committee

Revised Env. Working Group suggestion for TAC

Preamble

- We are members of the Los Osos community and we are working on behalf of our community to help provide clear, objective, and accurate information about the pros and cons of different alternatives.
- Doing nothing is not an option – we need improved wastewater treatment in Los Osos to address ongoing and significant pollution of our aquifer and the Morro Bay Estuary.
- We encourage community input and participation and we will incorporate that input in our efforts and share it with the County Team.

Core Values

- **Sustainability** – (Resource use and management to meet present needs without compromising the ability of future generations to meet their needs)
- **Flexibility** to respond to unknown future
- **Stewardship** of our water and environmental resources
- **Community**

5/7/07 Provided by
Environmental Ad-Hoc
Committee

Environmental

Criteria For Pro/Con Analysis			
Technology	Cost	Environment	
Collection System			
State of the art	Construction	Construction disturbance	
Maintainability	Maintenance		
Projected life	Operating	Impact on biological resources	
Reliability	Energy	Visual impact	
Expandability	Community impact	Community impact	
Energy requirements	Archaeological Risk	Odor	
Community impact	Construction Risks	System failure risk	
System failure		Impact on archaeological resources	
Processing Plant			
State of the art	Construction	Construction disturbance	
Maintainability	Maintenance		
Projected life	Operating	Impact on biological resources (function of area needed)	
Expandability		Visual impact	
Energy requirements		Odor	
System failure		System failure	
		Impact on archaeological resources (function of land area needed)	
		Energy Use	
Plant Site			
Location	Maintenance	Construction disturbance	
Access	Land	Community Impact (odor, noise)	
Expandability		Impact on biological resources	
System failure		Visual impact	
		System failure risk	
		Impact on archaeological resources	
		Land Use Compatibility	
		Growth Inducement	
Effluent Disposal			
State of the art	Construction	Construction disturbance	
Maintainability	Maintenance		
Projected life	Operating	Impact on biological	

→ include sprawl inducement?

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Environmental Ad-Hoc Committee

			resources	
	Expandability		Visual impact	
	Energy requirements		Odor	
	System failure		System failure	
			Surface Water Quality	
Solids Disposal				
	State of the art	Construction	Volume	
	Maintainability	Maintenance	Class	
	Projected life	Operating	Odor	
	Expandability		Traffic	
	Energy requirements			
	System failure			
Water Resources				
	Effluent quality	Effluent quality	Effluent quality	
	Aquifer recharge	Aquifer recharge	Aquifer recharge	
	Saltwater intrusion	Saltwater intrusion	Saltwater intrusion	
	Purveyor participation	Purveyor participation	Purveyor participation	
			Surface Water Quality	

5/7/07 Provided
by Environmental
Ad-Hoc Committee

STEP COLLECTION

STEP PROVIDE PRIMARY TREATMENT AND DRAMATIC BIOSOLID REDUCTION

1. SEPTIC TANKS WITH LONG RESIDUAL TIME REDUCE BIOSOLIDS VOLUME BY A FACTOR OF 10 TO 1 COMPARED WITH.
2. PUMP OUT TIME IS REDUCED TO 10-12 YEARS DUE IN PART TO REMOVAL OF LEACH FIELD.
3. THE TWO AREA RESERVES FOR LEACHFIELD ALTERNATES ARE REMOVED FROM FOOTPRINT.

SMALL BORE PIPE OF 4 INCHES AND LESS FOR 90% OF THE COLLECTION REDUCE ENVIRONMENTAL IMPACT GREATLY

1. HDD BORING DOES NOT BLOCK ROAD AND DRIVEWAY DURING INSTALLATION.
2. SPEED OF INSTALLATION: WITHIN 9 MONTHS COLLECTION CAN BE INSTALLED BY FIVE LOCAL CREWS KEEPING DOLLARS IN OUR LOCAL ECONOMY.
3. EASY INSTALLATIONS DO NOT REQUIRE TRENCH RESCUE TEAM STANDBY AND TRAINING.
4. THE HUGE DEWATERING OPERATION OF GRAVITY IS NOT NEEDED AS LITTLE OPEN TRENCH WORK IS REQUIRED.
5. NPDES PERMIT FOR DUMPING TRENCH WATER INTO THE BAY IS NOT USED.

MAINTENANCE HOURS ARE VERY LOW ON STEP AND CAPITAL REPLACEMENT IS LOWER

1. THE EQUIPMENT IS MUCH LARGER FOR GRAVITY SYSTEMS. CREWS WITH CRANES AND VACUUM TRUCKS ARE USED WEEKLY.
2. A PICK UP TRUCK AND UTILITY WORKER CAN MAINTAIN THE STEP COLLECTION WHICH DOES NOT HAVE LIFT STATINS AND AUXILLIARY POWER.
3. ½ HP HIGH HEAD PUMPS LIKE THOSE USED IN RESIDENTIAL WATER WELLS OPERATE 20 MINUTES A DAY. THESE PUMPS ARE DESIGNED FOR MUCH GREATER SERVICE AND EASILY HAVE A SYSTEM LIFECYCLE

5/7/07
Public Comment
#1 Borrow 1 of 2

POND TREATMENT

LOWEST CAPITAL COST

1. EXCAVATION IS CHEAPER THAN STEEL AND CONCRETE. \$4 A CUBIC YARD TO MOVE DIRT. CAN GO DEEPER THAN 15 FEET SHRINKING FOOTPRINT.
2. GRADE 3 FARM LAND HAS LESS CONSTRAINTS SUCH AS LOWER SOCIAL IMPACT TO LOW DENSITY OF RESIDENCE AND COST PER ACRE IS MUCH LOWER THAN RESIDENTIAL SITING.
3. TEMPLETON TREATMENT PONDS COST \$3.5 MILLION. (2000) THAT IS LESS THAN \$4 DOLLARS A GALLON CAPITAL COST! HIGHER TREATMENT RAISES THAT BUT IT IS DRAMATICALLY LESS PER GALLON THAN ANY CONVENTIONAL TREATMENT THAT MEETS SIMILAR NITROGEN REDUCTION

LOWEST MAINTENANCE COST

1. LONG RESIDENCE TIME OF WASTEWATER PROVIDES NATURAL OPPORTUNITY FOR BACTERIA.
2. PONDS HAVE 30 TO 1 VOLUME COMPARED TO CONVENTIONAL PROVIDING LOWER RISK FOR SPILLS AND UPSETS LIKE TOXIC SHOCK. IN A 24-HOUR TREATMENT TRAIN. OPERATORS ALWAYS HAVE TO JUGLE BOD WITH CHANGING LOADS.

LOWEST GRADE AND NUMBER OF PLANT OPERATORS

1. WORKERS CAN BE WATER UTILITY AS LOWER OPERATOR GRADE REQUIRED. NUMBER OF MAINTENANCE HOURS ARE ALSO THE LOWEST.
2. 30 YEARS RESIDUAL ASH FROM UN SCAVAGED BACTERIA HAS TO BE REMOVED. CONVENTIONAL PLANTS HAVE MUCH MORE RIGOROUS MAINTENANCE CYCLES.
3. TEMPLETON IS A GOOD EXAMPLE OF A POND TREATMENT PLANT IN SLO COUNTY. IT IS DESIGNED FOR SIMILAR FLOW IN A RURAL SETTING ADJACENT TO DISPOSAL LOCATIONS.

LOWEST ENERGY USER

1. EVERY CHART HAS POND TREATMENT AT THE TOP FOR LOWEST ENERGY CONSUMPTION.
2. SOLAR TECHNOLOGIES MORE EASILY FIT THE RURAL ENVIRONMENT EAST OF TOWN WHERE THERE IS MORE SUNLIGHT.

5/7/07
Public Comment 2 of 2
Al Borrow